

REMARKS

Rejections under 35 USC §112, Second Paragraph

Claims 1 and 2 were rejected under 35 USC §112, second paragraph, as being indefinite.

The Examiner alleged that it is unclear how Applicants define the term “Cu-based” in the claims. Accordingly, claims 1 and 2 have been amended to recite that “the amorphous phase contains 50 to 60 atomic percent of Cu.”

Thus, the rejection has been overcome.

Rejections under 35 USC §103(a)

Claims 1 and 2 were rejected under 35 USC §103(a) as being unpatentable over Inoue et al. (U.S. Patent No. 5,980,652) or over WO 00/26425.

Claim 1 has been amended to recite “ $\text{Cu}_{100-a-b}(\text{Zr,Hf})_a(\text{Al,Ga})_b$, where a and b are on an atomic percent basis and satisfy $35 \leq a \leq 45$ and $2 \leq b \leq 10$, wherein the amorphous phase contains 50 to 60 atomic percent of Cu.” Claim 2 also has been amended similarly and also to recite “ $b+c+d+e \leq 10$.” These amendments are supported in the original specification at page 8, lines 11-12 and page 10, lines 7-8.

The recitations of claims 1 and 2 and cited references can be compared in the following table:

		Claim 1	Claim 2	Inoue et al	WO00/26425
	Cu	50-60	50-60		30-50
c	Ni	-	0-5	15-45	Ni/Cu≤1/3
	Fe, Co,	-			-
	Cr, V, Nb, Mo, Ta, W, REM	-		-	*
	Ti	-	-	-	*
b	Ga	2-10	2-10	5-20	-
	Al				5-10
a	Hf	35-45	35-45		-
	Zr			30-70	33-65
d	Ge, Sn Si, B	-	0-5	-	-
e	Ag, Pd, Pt, Au	-	0-5	0-10	*
	-	-	-	-	*Ti+Nb+Pd: 0-7

Thus, while claims 1 and 2 recites “50 to 60 atomic percent of Cu,” the alloy material of Inoue et al contains 15 to 45 atomic percent in the total of Cu, Ni, Fe and Co. Nothing teaches or suggests an alloy containing as much as 50 to 60 atomic % of Cu. Moreover, Inoue et al describes as follows:

The mark B represents one or more elements selected from the group of Fe, Co, Ni and Cu, having the function to promote the formation of the amorphous phase. When the amount of the element B is within the range of 15-45 atomic %, the alloy system has a sufficient metamorphosing potential.

(Inoue et al, column 3, lines 27-32).

Thus, Inoue et al indicates that the alloy system does not have a sufficient metamorphosing potential outside of the range, which teaches away from adding Cu more than 45 atomic %.

WO00/26425 discloses an alloy containing 30-50 at % of (Cu+Ni) while claims 1 and 2 recites "50 to 60 atomic percent of Cu." According to WO00/26425, Ni and Cu have a relationship satisfying $Ni/Cu \leq 1/3$. The embodiments in WO00/26425 all contain Ni at 5 at % or more. Thus, according to the disclosure of WO00/26425, Cu is contained much less than 50 at %.

Thus, claims 1 and 2 patentably distinguish over Inoue et al and WO00/26425.

Double Patenting Rejection

Claims 1 and 2 were rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 2 of U.S. Patent No. 7,056,394.

Applicants submit a terminal disclaimer attached hereto. Also, the present invention is distinguished from U.S. Patent No. 7,056,394 as follows:

		Claim 1	Claim 2	USP7,056,394	
	Cu	50-63	50-63	40-80	40-77
b	Ga	2-10	2-10	-	-
	Al				
(d)	Sn	-	-		
c	Ni	-	0-5		
	Fe, Co				
	Mn				
	Cr, Nb, Mo, Ta, W, REM			-	-
	V				
	Be	-	-	0<Be≤20	3-5
	Ti	-	-	20-40	20-40
a	Hf	35-45	35-45		
	Zr				
d	Ge, Sn Si, B	-	0-5	-	-
e	Ag, Pd, Pt, Au	-	0-5	-	0-10

Amendment under 37 C.F.R. §1.111
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The recitations of claims 1 and 2 and US Patent No. 7,056,394 can be compared in the above table. The alloy of USP 7,056,394 contains Be as an essential element while claims 1 and 2 do not contain Be. Thus, there is no overlapping.

For at least these reasons, claims 1 and 2 patentably distinguish over USP7,056,394.

In view of the aforementioned amendments and accompanying remarks, Applicants submit that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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